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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/554,024

10/21/2005

Kenji Imamura

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EXAMINER

VERLEY, NICOLE T

ART UNIT

PAPER NUMBER

3616

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/554,024	<b>Applicant(s)</b> IMAMURA ET AL.	
	<b>Examiner</b> NICOLE VERLEY	<b>Art Unit</b> 3616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 21 October 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 12, 14, 37 and 40 is/are rejected.
- 7) ☒ Claim(s) 6-11, 13, 15-36, 38, 39, 41 and 42 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 October 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>10/21/05, 5/18/07, 12/20/07</u> .                             | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Specification***

The disclosure is objected to because of the following informalities:

Page 40, line 18 reference number 22 is used for inner tube;

Page 41, line 17 "Fig. 4" should be --Fig. 5-- since the features are not shown in Fig. 4;

Page 41, line 23 reference number "43a" is not shown, should be --42a--;

Page 55, line 28 reference number "71a1" is not shown, should be --71a2--;

Page 93, line 6-7 reference number "272a" is not shown in fig. 71, should be --372a--;

In fig. 71 of the drawings reference numbers "372a" one of them should be --372a1--.

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Appropriate correction is required.

### ***Claim Objections***

Claims 1 and 10 are objected to because of the following informalities:

Claim 1 line 6 "portion" should be --fixed portion-- as to not be confused with mounting portion;

Claim 10, line 5 "at at" should be --in at--;

Claim 10, lines 7 and 8 “and a position between the impact energy absorbing member and the steering column” should be deleted since it is a repeated limitation. Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-5 are rejected under 35 U.S.C. 102(e) as being anticipated by Matsumoto et al. (United States Patent Number 6,764,098 B2).

The applied reference has a common assignee and inventors Yoshino, Kondo, Nakano, Hoshino and Imamura with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention “by another,” or by an appropriate showing under 37 CFR 1.131.

Regarding claims 1-5 Matsumoto discloses figures 3 and 6A a shock absorbing steering apparatus (10a) for use in a vehicle with a steering column (11) to be fixed to a portion of a body of the vehicle (column 7 lines 20-28) such that the steering column

(11) is releasable from the body of the vehicle and movable in a forward direction of the vehicle in the event of a secondary collision of an occupant of the vehicle upon a collision of the vehicle (column 7 lines 33-48), one of the steering column (11) and portion of the body of the vehicle including a mounting portion (15), and the other of the steering column and portion including a holding portion (24b); and an impact energy absorbing member (23) to be mounted on the mounting portion (15), the impact energy absorbing member (23) including an engaging portion (23a, 23e3) which is engageable with the holding portion (24b) and being deformable as the steering column is moved in the forward direction of the vehicle while the engaging portion is held in engagement with the holding portion, the impact energy absorbing member absorbs an impact energy generated by the secondary collision (column 9 lines 7-26) (regarding claim 1). Further comprising an engagement adjusting mechanism (24) operable to permit or inhibit an engagement between the engaging portion (23a, 23e3) of the impact energy absorbing member (23) and holding portion (24b) (column 9 lines 19-26) (regarding claim 2) on the basis of an output of a sensor (92) provided to detect a state of the vehicle or an occupant of the vehicle (column 8 lines 49-58) (regarding claim 5). The engagement adjusting mechanism (24) includes an actuator (24a) operable between a first position for permitting the engagement between the engaging portion (23a, 23e3) and the holding portion (24b), and a second for inhibiting said engagement (column 9 lines 32-44) (regarding claim 3). The engagement adjusting mechanism (24) is arranged such that an impact energy absorbing load to be generated by deformation of the impact energy absorbing member (23) does not act on actuator (24a) when the

engaging portion (23a, 23e3) is brought into engagement with the holding portion (24b) (as seen in figure 6A 24 is out of the way of the deformation path) (regarding claim 4).

Claims 1, 12, and 14 are rejected under 35 U.S.C. 102(e) as being anticipated by Matsumoto et al. (United States Patent Number 6,764,098 B2).

The applied reference has a common assignee and inventors Yoshino, Kondo, Nakano, Hoshino and Imamura with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Regarding claims 1, 12, and 14 Matsumoto discloses figures 3, 16A and 29 a shock absorbing steering apparatus (10a) for use in a vehicle with a steering column (11) to be fixed to a portion of a body of the vehicle (column 7 lines 20-28) such that the steering column (11) is releasable from the body of the vehicle and movable in a forward direction of the vehicle in the event of a secondary collision of an occupant of the vehicle upon a collision of the vehicle (column 7 lines 33-48), one of the steering column (11) and portion of the body of the vehicle including a mounting portion (15), and the other of the steering column and portion including a holding portion (21, 121); and an impact energy absorbing member (23) to be mounted on the mounting portion (15, 22), the impact energy absorbing member (23) including an engaging portion (end portion of 23 shown in fig 16A, end portion of 123 shown in fig 29) which is engageable

with the holding portion (21, 121) and being deformable as the steering column (11) is moved in the forward direction of the vehicle while the engaging portion is held in engagement with the holding portion (21, 121), the impact energy absorbing member absorbs (23, 123) an impact energy generated by the secondary collision (column 9 lines 7-26) (regarding claim 1). The impact energy absorbing member is a plate having an end portion formed as said engaging portion (23, 123 shown in figure 16A, and 29) (regarding claim 12). The impact energy absorbing member includes a plurality of plates which are superposed on each other and each of which has engaging portion (123) (regarding claim 14).

Claims 1, 37 and 40 are rejected under 35 U.S.C. 102(e) as being anticipated by Matsumoto et al. (United States Patent Number 6,764,098 B2).

The applied reference has a common assignee and inventors Yoshino, Kondo, Nakano, Hoshino and Imamura with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Regarding claims 1, 37, and 40 Matsumoto discloses figures 3-5B a shock absorbing steering apparatus (10a) for use in a vehicle with a steering column (11) to be fixed to a portion of a body of the vehicle (column 7 lines 20-28) such that the steering column (11) is releasable from the body of the vehicle and movable in a forward

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direction of the vehicle in the event of a secondary collision of an occupant of the vehicle upon a collision of the vehicle (column 7 lines 33-48), one of the steering column (11) and portion of the body of the vehicle including a mounting portion (15), and the other of the steering column and portion including a holding portion (21); and an impact energy absorbing member (23) to be mounted on the mounting portion (15, 22), the impact energy absorbing member (23) including an engaging portion (end portion of 23 shown in fig 16A, end portion of 123 shown in fig 29) which is engageable with the holding portion (21) and being deformable as the steering column (11) is moved in the forward direction of the vehicle while the engaging portion is held in engagement with the holding portion (21), the impact energy absorbing member absorbs (23, 123) an impact energy generated by the secondary collision (column 9 lines 7-26) (regarding claim 1). Further comprising an energy-absorbing-load changing mechanism (23e1, 23e2, changing dimensions as in added notches changes the impact of the load applied) operable to change an impact energy absorbing load to be generated by deformation of the impact energy absorbing member (23), depending upon a velocity of the movement of the steering column (11) in the forward direction of the vehicle relative to the portion of the body of the vehicle (regarding claim 37). The energy-absorbing-load changing mechanism (23e1, 23e2, changing dimensions as in added notches changes the impact of the load applied) changes the impact energy absorbing load by changing a force of resistance to the deformation of the impact energy absorbing member (regarding claim 40).



***Allowable Subject Matter***

Claims 6-11, 13, 15-36, 38, 39, 41 and 42 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: None of the prior art made of record teach - a shock absorbing steering apparatus with the engagement adjusting mechanism includes a mechanism operable to cause the holding portion to be displaced by an amount corresponding to a magnitude of an impact applied to the body of the vehicle upon the collision of the vehicle, and a mechanism operable to permit the engagement between the engaging portion and the holding portion when the amount of displacement of the holding portion is larger than a predetermined threshold (regarding claim 6); the impact energy absorbing member is arranged to be positioned relative to the mounting portion such that the engaging portion and the holding portion are spaced from each other by a predetermined free-running distance in said forward direction before the steering column is moved (regarding claim 8); comprising an initial-load adjusting mechanism operable to reduce a rate of increase of an impact energy absorbing load to be generated by the impact energy absorbing member in an initial period of the absorption of the impact energy, being provided in at least one position selected from among: a position between the impact energy absorbing member and the steering column; a position on the impact energy absorbing member (regarding claim 10); the engaging portion of the impact energy absorbing member and the holding portion are engageable

with each other so as to provisionally hold the steering column on the portion of the body of the vehicle through the impact energy absorbing member (regarding claim 11); the engaging portion and the holding portion are arranged such that the engaging portion receives a shearing load after the engaging portion is brought into engagement with the holding portion (regarding claim 13); the impact energy absorbing plate includes a generally U-shaped portion consisting of a curved section and two arm sections extending from respective opposite ends of the curved section, and the mounting portion is sandwiched by and between the two arm sections in a direction of thickness of the plate (regarding claims 15, 41, 42); a column holder structure which holds the column body and which is fixed to the portion of the body of the vehicle and is releasable and movable away from the portion of the body of the vehicle in the forward direction of the vehicle, in the event of secondary collision, and the column holder structure includes the mounting portion while the portion of the body of the vehicle is provided with the holding portion (regarding claim 17); the energy-absorbing-load changing mechanism increases the impact energy absorbing load with an increase in the velocity of movement of the steering column (regarding claim 38); the energy-absorbing-load changing mechanism changes the impact energy absorbing load such that the impact energy absorbing load is larger when the velocity of movement of the steering column is higher than a predetermined threshold (regarding claim 39); energy-absorbing-load changing mechanism includes (a) a deformation-resistance increasing member provided on the mounting portion and engageable with the impact energy absorbing member so as to increase the force of resistance to the deformation of the

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impact energy absorbing member, and (b) an engaging mechanism operable to cause engagement of the deformation-resistance increasing member with the impact energy absorbing member when a velocity of movement of the impact energy absorbing member relative to the front end portion of the mounting portion is higher than a predetermined threshold (regarding claim 41); energy-absorbing-load changing mechanism includes (a) a movable member provided on the mounting portion and engageable with the impact energy absorbing member such that the movable member is movable when the impact energy absorbing member is displaced relative to the front end portion of the mounting portion, and (b) a movable-member-movement restricting mechanism operable to restrict a movement of the movable member when a velocity of movement of the movable member is higher than a predetermined threshold (regarding claim 42).

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Riefe (US Patent No. US-6,655,716 B2), Hamasaki et al. (US Patent No. US-4,838,576 A), Ichikawa (US Patent No. US-5,209,135 A), Speich (US Patent No. US-5,286,056 A), Fevre et al. (US Patent No. US-5,673,937 A), Nouwynck et al. (US Patent No. US-6,283,508 B1), Riefe et al. (US Patent No. US-6,761,376 B2), Matsumoto et al. (US Patent No. US-6,764,098 B2) and Dubay et al. (US Patent No. US-6,942,250 B2).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NICOLE VERLEY whose telephone number is (571)270-3542. The examiner can normally be reached on 8:00 AM - 5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lesley Morris can be reached on (571) 272-6651. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/N. V./  
Examiner, Art Unit 3616

/Eric Culbreth/  
Primary Examiner, Art Unit 3616